

FORM PTO-1390 (Modified) U.S. PATENT AND TRADEMARK OFFICE; U.S. DEPARTMENT OF COMMERCE
(REV. 12-2004)

**TRANSMITTAL LETTER TO THE UNITED STATES
DESIGNATED/ELECTED OFFICE (DO/EO/US)
CONCERNING A SUBMISSION UNDER 35 U.S.C. 371**

ATTORNEY'S DOCKET NUMBER

112857-534

U.S. APPLICATION NO. (If known, see 37 CFR 1.5)

10/512,131

INTERNATIONAL APPLICATION NO.
PCT/JP04/001952INTERNATIONAL FILING DATE
February 19, 2004PRIORITY DATE CLAIMED
March 20, 2003

TITLE OF INVENTION

**SEMICONDUCTOR LIGHT EMITTING ELEMENT, MANUFACTURING METHOD THEREOF, INTEGRATED
SEMICONDUCTOR LIGHT EMITTING DEVICE, MANUFACTURING METHOD THEREOF, IMAGE DISPLAY DEVICE...**

APPLICANT(S) FOR DO/EO/US

Okuyama et al.

Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:

1. ☐ This is a **FIRST** submission of items concerning a submission under 35 U.S.C. 371.
2. ☒ This is a **SECOND** or **SUBSEQUENT** submission of items concerning a submission under 35 U.S.C. 371.
3. ☐ This is an express request to begin national examination procedures (35 U.S.C. 371(f)). The submission must include items (5), (6), (9) and (24) indicated below.
4. ☐ The US has been elected (Article 31).
5. ☐ A copy of the International Application as filed (35 U.S.C. 371 (c)(2))
 - a. ☐ is attached hereto (required only if not communicated by the International Bureau).
 - b. ☐ has been communicated by the International Bureau.
 - c. ☐ is not required, as the application was filed in the United States Receiving Office (RO/US).
6. ☐ An English language translation of the International Application as filed (35 U.S.C. 371(c)(2)).
 - a. ☐ is attached hereto.
 - b. ☐ has been previously submitted under 35 U.S.C. 154(d)(4).
7. ☐ Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371 (c)(3))
 - a. ☐ are attached hereto (required only if not communicated by the International Bureau).
 - b. ☐ have been communicated by the International Bureau.
 - c. ☐ have not been made; however, the time limit for making such amendments has NOT expired.
 - d. ☐ have not been made and will not be made.
8. ☐ An English language translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)).
9. ☐ An oath or declaration of the inventor(s) (35 U.S.C. 371 (c)(4)).
10. ☐ An English language translation of the annexes to the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371 (c)(5)).
11. ☐ A copy of the International Preliminary Examination Report (PCT/IPEA/409).
12. ☐ A copy of the International Search Report (PCT/ISA/210).

Items 13 to 23 below concern document(s) or information included:

13. ☒ An Information Disclosure Statement under 37 CFR 1.97 and 1.98.
14. ☐ An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included.
15. ☐ A **FIRST** preliminary amendment.
16. ☐ A **SECOND** or **SUBSEQUENT** preliminary amendment.
17. ☐ A substitute specification.
18. ☐ A power of attorney and/or change of address letter.
19. ☐ A computer-readable form of the sequence listing in accordance with PCT Rule 13ter.2 and 37 CFR 1.821 - 1.825.
20. ☐ A second copy of the published International Application under 35 U.S.C. 154(d)(4).
21. ☐ A second copy of the English language translation of the International Application under 35 U.S.C. 154(d)(4).
22. ☒ Express Mail Label No. EV 351195750 US
23. ☒ Other items or information:

Return Receipt Postcard.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

U.S. APPLICATION NO (if known, see 37 CFR 1.5) 10/512,131		INTERNATIONAL APPLICATION NO. PCT/JP04/001952		ATTORNEY'S DOCKET NUMBER 112857-534	
24. The following fees are submitted:				Applicant use	Office use
<input type="checkbox"/> a) Basic national fee \$300.00				\$	\$0.00
<input type="checkbox"/> b) Examination fee \$200.00				\$	\$0.00
<input type="checkbox"/> c) Search fee \$500.00				\$	\$0.00
TOTAL OF ABOVE CALCULATIONS = \$1000.00				\$	\$0.00
<input type="checkbox"/> Additional fee for specification and drawings filed in paper over 100 sheets (excluding sequence listing or computer program listing filed in an electronic medium). The fee is \$250 for each additional 50 sheets of paper or fraction thereof.					
Total Sheets	Extra Sheets	Number of each additional 50 or fraction thereof (round up to a whole)	RATE		
- 100 =	/50 =		x \$250.00	\$	\$0.00
Surcharge of \$130.00 for furnishing the oath or declaration later than months from the earliest claimed priority date (37 CFR 1.492(e)).				\$	
CLAIMS	NUMBER FILED	NUMBER EXTRA	RATE		
Total claims	- 20 =	0	x \$50.00	\$	\$0.00
Independent claims	- 3 =	0	x \$200.00	\$	\$0.00
MULTIPLE DEPENDENT CLAIMS (if applicable) <input type="checkbox"/> + \$360.00				\$	\$0.00
TOTAL OF ABOVE CALCULATIONS =				\$	\$0.00
<input type="checkbox"/> Applicant claims small entity status. See 37 CFR 1.27. The fees indicated above are reduced by 1/2.				\$	\$0.00
SUBTOTAL =				\$	\$0.00
Processing fee of \$130.00 for furnishing the English translation later than 30 months from the earliest claimed priority date (37 CFR 1.492(f)).				\$	\$0.00
TOTAL NATIONAL FEE =				\$	\$0.00
Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31). \$40 per property +				\$	\$0.00
TOTAL FEES ENCLOSED =				\$	\$0.00
Amount to be refunded:					\$
Amount to be charged:					\$
<p>a. <input type="checkbox"/> A check in the amount of \$ _____ to cover the above fees is enclosed.</p> <p>b. <input type="checkbox"/> Please charge my Deposit Account No. _____ in the amount of _____ to cover the above fees. A duplicate copy of this sheet is _____</p> <p>c. <input checked="" type="checkbox"/> The Director is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. <u>02-1818</u>. A duplicate copy of this sheet is enclosed.</p> <p>d. <input type="checkbox"/> Fees are to be charged to a credit card. WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.</p>					
<p>NOTE: Where an appropriate time limit under 37 CFR 1.495 has not been met, a petition to revive (37 CFR 1.137(a) or (b)) must be filed and granted to restore the International Application to pending status.</p>					
SEND ALL CORRESPONDENCE TO:					
Thomas C. Basso BELL, BOYD & LLOYD LLC P.O. Box 1135 Chicago, Illinois 60690-1135			SIGNATURE Thomas C. Basso NAME 46,541 REGISTRATION NUMBER		

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Okuyama et al.
Appl. No.: 10/512,131
Intl. Appl. No.: PCT/JP04/001952
Conf. No.: Unknown
Filed: October 21, 2004
Title: SEMICONDUCTOR LIGHT EMITTING ELEMENT, MANUFACTURING
METHOD THEREOF, INTEGRATED SEMICONDUCTOR LIGHT
EMITTING DEVICE, MANUFACTURING METHOD THEREOF, IMAGE
DISPLAY DEVICE, MANUFACTURING METHOD THEREOF,
ILLUMINATING DEVICE AND MANUFACTURING METHOD
THEREOF
Art Unit: Unknown
Examiner: Unknown
Docket No.: 112857-534

Mail Stop PCT
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

CERTIFICATE OF MAILING BY EXPRESS MAIL UNDER 37 CFR 1.10

Sir:

I hereby certify that the following documents relating to the above-identified application:

1. Transmittal Letter to the U.S. Designated/Elected Office (DO/EO/US) (Duplicate);
2. Transmittal of Information Disclosure Statement (Duplicate);
3. Supplemental Information Disclosure Statement (3 Pages);
4. PTO Form 1449 (2 Pages);
5. Cited References (40 References); and
6. Return Receipt Postcard

are being deposited with the United States Postal Service with sufficient postage as Express Mail
in an envelope addressed to:

Mail Stop
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

on February 18, 2005.

Respectfully submitted,

BELL, BOYD & LLOYD LLC

Heather Foster

Name of Person Mailing Correspondence



Signature

EV 351195750 US

Express Mail Mailing Label Number

TRANSMITTAL OF INFORMATION DISCLOSURE STATEMENT
(Under 37 CFR 1.97(b) or 1.97(c))

Docket No.
112857-534

In Re Application Of: **Okuyama et al.**

Application No.	Filing Date	Examiner	Customer No.	Group Art Unit	Confirmation No.
10/512,131	10/21/2004	Unknown	29175	Unknown	Unknown

Title: **SEMICONDUCTOR LIGHT EMITTING ELEMENT, MANUFACTURING METHOD THEREOF, INTEGRATED SEMICONDUCTOR LIGHT EMITTING DEVICE, MANUFACTURING METHOD THEREOF, IMAGE DISPLAY DEVICE, MANUFACTURING METHOD THEREOF, ILLUMINATING DEVICE AND MANUFACTURING METHOD THEREOF**

Address to:
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

37 CFR 1.97(b)

1. ☒ The Information Disclosure Statement submitted herewith is being filed within three months of the filing of a national application other than a continued prosecution application under 37 CFR 1.53(d); within three months of the date of entry of the national stage as set forth in 37 CFR 1.491 in an international application; before the mailing of a first Office Action on the merits, or before the mailing of a first Office Action after the filing of a request for continued examination under 37 CFR 1.114.

37 CFR 1.97(c)

2. ☐ The Information Disclosure Statement submitted herewith is being filed after the period specified in 37 CFR 1.97(b), provided that the Information Disclosure Statement is filed before the mailing date of a Final Action under 37 CFR 1.113, a Notice of Allowance under 37 CFR 1.311, or an Action that otherwise closes prosecution in the application, and is accompanied by one of:

☐ the statement specified in 37 CFR 1.97(e);

OR

☐ the fee set forth in 37 CFR 1.17(p).

TRANSMITTAL OF INFORMATION DISCLOSURE STATEMENT
(Under 37 CFR 1.97(b) or 1.97(c))

Docket No.
112857-534

In Re Application: **Okuyama et al.**

Application No.	Filing Date	Examiner	Customer No.	Group Art Unit	Confirmation No.
10/512,131	10/21/2004	Unknown	29175	Unknown	Unknown

Title: **SEMICONDUCTOR LIGHT EMITTING ELEMENT, MANUFACTURING METHOD THEREOF, INTEGRATED SEMICONDUCTOR LIGHT EMITTING DEVICE, MANUFACTURING METHOD THEREOF, IMAGE DISPLAY DEVICE, MANUFACTURING METHOD THEREOF, ILLUMINATING DEVICE AND MANUFACTURING METHOD THEREOF**

Payment of Fee

(Only complete if Applicant elects to pay the fee set forth in 37 CFR 1.17(p))

- ☐ A check in the amount of _____ is attached.
- ☒ The Director is hereby authorized to charge and credit Deposit Account No. **02-1818** as described below.
- ☐ Charge the amount of _____
 - ☒ Credit any overpayment.
 - ☒ Charge any additional fee required.
- ☐ Payment by credit card. Form PTO-2038 is attached.

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

Certificate of Transmission by Facsimile*

I certify that this document and authorization to charge deposit account is being facsimile transmitted to the United States Patent and Trademark Office (Fax. No. _____)

(Date)

Signature

Typed or Printed Name of Person Signing Certificate

Certificate of Mailing by First Class Mail

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to "Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450" [37 CFR 1.8(a)] on _____

02/18/2005
(Date)

(Date)

Signature of Person Mailing Correspondence
Heather Foster

Typed or Printed Name of Person Mailing Certificate

*This certificate may only be used if paying by deposit account.

Signature

Dated: February 18, 2005

Thomas C. Basso
Reg. No. 46,541
Bell, Boyd & Lloyd LLC
P.O. Box 1135
Chicago, Illinois 60690-1135
Telephone: (312) 807-4310

CC:

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Okuyama et al.
Appl. No.: 10/512,131
Conf. No.: Unknown
Filed: October 21, 2004
Title: SEMICONDUCTOR LIGHT EMITTING ELEMENT, MANUFACTURING METHOD THEREOF, INTEGRATED SEMICONDUCTOR LIGHT EMITTING DEVICE, MANUFACTURING METHOD THEREOF, IMAGE DISPLAY DEVICE, MANUFACTURING METHOD THEREOF, ILLUMINATING DEVICE AND MANUFACTURING METHOD THEREOF
Art Unit: Unknown
Examiner: Unknown
Docket No.: 112857-534

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

Sir:

In accordance with the provisions of 37 C.F.R. 1.56, 37 C.F.R. 1.97, and 37 C.F.R. 1.98, Applicants request that a citation and examination of the references cited below, and on the attached PTO-1449 form, be made during the course of examination of the above-identified application for United States patent. Pursuant to the Official Gazette Notice dated August 5, 2003, copies of the cited U.S. patents and patent applications are not included as this application was filed after June 30, 2003. However, copies of all other cited references are included with this form.

U.S. PATENT DOCUMENTS

<u>Document No.</u>	<u>Date</u>	<u>Inventor</u>
5,177,405	01-05-93	Kusuda et al.
5,727,008	03-10-98	Koga
5,732,098	03-24-98	Nisitani
5,814,839	09-29-98	Hosoba
5,828,088	10-27-98	Mauk
5,981,977	11-09-99	Furukawa et al.
6,252,255	06-26-01	Ueta et al.
6,320,209	11-20-01	Hata et al.

FOREIGN PATENT DOCUMENTS

<u>Document No.</u>	<u>Date</u>	<u>Country</u>
56-92577	07-27-81	Japan
57-45583	03-15-82	Japan
57-52071	03-27-82	Japan
57-52072	03-27-82	Japan
57-52073	03-27-82	Japan
58-50577	03-25-83	Japan
61-156780	07-16-86	Japan
63-188938	08-04-88	Japan
2-263668	10-26-90	Japan
03-035568	02-15-91	Japan
06-067044	03-11-94	Japan
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08-255929	10-01-96	Japan
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10-265297	10-06-98	Japan
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10-312971	11-24-98	Japan
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11-177138	07-02-99	Japan
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11-346004	12-14-99	Japan
11-514136	11-30-99	Japan
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2000-012976	01-14-00	Japan

<u>Document No.</u>	<u>Date</u>	<u>Country</u>
2000-150391	05-30-00	Japan
2000-183451	06-30-00	Japan
2000-223417	08-11-00	Japan
2000-332343	11-30-00	Japan
2001-085738	03-30-01	Japan
2001-217503	08-10-01	Japan
2002-185660	12-12-02	Japan
WO 97/44612	11-27-97	PCT
WO 02/07231	01-24-02	PCT

OTHER DOCUMENTS

Zheleva et al., "*Pendeo-epitaxy – a new approach for lateral growth of gallium nitride structures,*" MRS Internet J. Nitride Semicond. Res. 4S1, G3.38 (1999).

Kapolnek et al., "*Spatial control of InGaN luminescence by MOCVD selective epitaxy,*" Journal of Crystal Growth, 189/190 (1998) pp. 83-86.

Wang et al., "*Fabrication of nanoscale structures of InGaN by MOCVD lateral overgrowth,*" Journal of Crystal Growth 197 (1999), pp. 48-53.

Singh et al., "*Selective Area Growth of GaN Directly on (0001) Sapphire by the HVPE Technique,*" MRS Internet Journal Nitride Semiconductor Research, 3, 13 (1998), pp. 1-4.

Mao, et al., "*Defects in GaN Pyramids Grown on Si(111) Substrates by Selective Lateral Overgrowth,*" Materials Research Society Meeting in Boston, Mass. (1998) pp. 1-6.

Yang et al., "*Single-crystal GaN pyramids grown on (111)Si substrates by selective lateral overgrowth,*" Journal of Crystal Growth, Vol. 204, No. 3, (1999), pp. 270-274.

Stringfellow et al., Journal of Crystal Growth, Vol. 204, No. 3, July 11 (1999), pp. 247-418.

Applicants look forward to early and favorable consideration of this matter.

Respectfully submitted,

BELL, BOYD & LLOYD LLC

BY



Thomas C. Basso

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Chicago, Illinois 60690-1135

Phone: (312) 807-4310

Dated: February 18, 2005

INFORMATION DISCLOSURE CITATION IN AN APPLICATION (Use several sheets if necessary) PTO Form 1449	Atty Docket No. 112857-534	Application No. 10/512,131
	Applicant Okuyama et al.	
	Filing Date 10/21/2004	Group Unknown

U.S. PATENT DOCUMENTS						
Examiner's Initials	Document Number	Publication Date	Inventor	Class	Subclass	Filing Date If Appropriate
	5,177,405	01-05-93	Kusuda et al.			
	5,727,008	03-10-98	Koga			
	5,732,098	03-24-98	Nisitani			
	5,814,839	09-29-98	Hosoba			
	5,828,088	10-27-98	Mauk			
	5,981,977	11-09-99	Furukawa et al.			
	6,252,255	06-26-01	Ueta et al.			
	6,320,209	11-20-01	Hata et al.			

FOREIGN PATENT DOCUMENTS							
Examiner's Initials	Document Number	Publication Date	Country	Class	Subclass	Translation	
						Yes	No
	56-92577	07-27-81	Japan				
	57-45583	03-15-82	Japan				
	57-52071	03-27-82	Japan				
	57-52072	03-27-82	Japan				
	57-52073	03-27-82	Japan				
	58-50577	03-25-83	Japan				
	61-156780	07-16-86	Japan				
	63-188938	08-04-88	Japan				
	2-263668	10-26-90	Japan				
	03-035568	02-15-91	Japan				
	06-067044	03-11-94	Japan				
	07-199829	04-08-95	Japan				
	08-008217	01-12-96	Japan				
	08-255929	10-01-96	Japan				
	09-199419	07-31-97	Japan				
	10-125929	05-05-98	Japan				
	10-265297	10-06-98	Japan				
	10-270801	10-09-98	Japan				

Examiner:	Date Considered:
*Examiner: Initial if citation considered, whether or not citation is in conformance with MPEP Section 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	

INFORMATION DISCLOSURE CITATION IN AN APPLICATION (Use several sheets if necessary) PTO Form 1449	Atty Docket No. 112857-534	Application No. 10/512,131
	Applicant Okuyama et al.	
	Filing Date 10/21/2004	Group Unknown

FOREIGN PATENT DOCUMENTS								
Examiner's Initials		Document Number	Publication Date	Country	Class	Subclass	Translation	
							Yes	No
		10-312971	11-24-98	Japan				
		10-321910	12-04-98	Japan				
		11-075019	03-16-99	Japan				
		11-177138	07-02-99	Japan				
		11-238687	08-31-99	Japan				
		11-251253	09-17-99	Japan				
		11-274568	10-08-99	Japan				
		11-312840	11-09-99	Japan				
		11-346004	12-14-99	Japan				
		11-514136	11-30-99	Japan				
		2000-068593	03-03-00	Japan				
		2000-012976	01-14-00	Japan				
		2000-150391	05-30-00	Japan				
		2000-183451	06-30-00	Japan				
		2000-223417	08-11-00	Japan				
		2000-332343	11-30-00	Japan				
		2001-085738	03-30-01	Japan				
		2001-217503	08-10-01	Japan				
		2002-185660	12-12-02	Japan				
		WO 97/44612	11-27-97	PCT				
		WO 02/07231	01-24-02	PCT				

Examiner's Initials	OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)
	Zheleva et al., "Pendeo-epitaxy – a new approach for lateral growth of gallium nitride structures," MRS Internet J. Nitride Semicond. Res. 4S1, G3.38 (1999).
	Kapolnek et al., "Spatial control of InGaN luminescence by MOCVD selective epitaxy," Journal of Crystal Growth, 189/190 (1998) pp. 83-86.
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Examiner:	Date Considered:
*Examiner: Initial if citation considered, whether or not citation is in conformance with MPEP Section 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	

